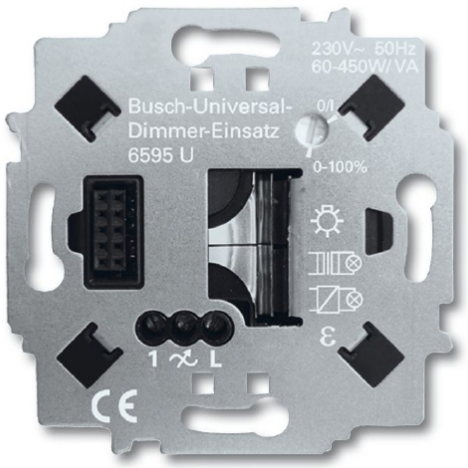
1473-1-7942 | Rev. 01 | 17.12.2012

Operating Instructions
Busch-Dimmer®

Busch WaveLINE
Universal dimmer insert
6595 U



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1 Safety

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

2 Intended use

The device is to be used exclusively with the components that are supplied and licensed as described in chapter "Setup and function".

3 Environment

Consider the protection of the environment!
Used electric and electronic devices must not be disposed of with domestic waste.
– The device contains valuable raw materials which can be recycled. Therefore, dispose of the device at the appropriate collecting depot.

All packaging materials and devices bear the markings and test seals for proper disposal. Always dispose of the packaging material and electric devices and their components via the authorized collecting depots and disposal companies.
The products meet the legal requirements, in particular the laws governing electronic and electrical devices and the REACH ordinance.
(EU Directive 2002/96/EC WEEE and 2002/95/EC RoHS)
(EU REACH ordinance and law for the implementation of the ordinance (EC) No.1907/2006)

4 Operation

The universal relay insert makes control possible in the two operating modes "Dimmer" and "Switch".
The connected loads can be controlled directly with control element "6730-...".See also the respective operating instructions.

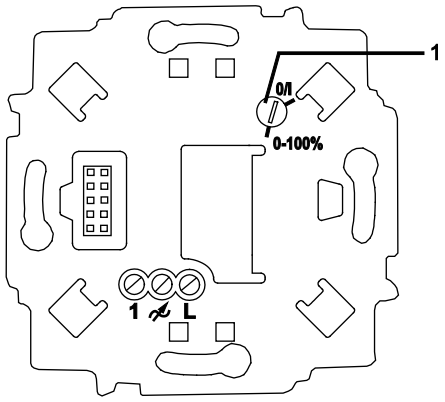

Fig. 1: Insert with selector potentiometer

4.1 Direct control via control element

Operating mode "Dimmer (0 - 100%**)"**
- Set the selector potentiometer (Fig. 1 (1) on **0 - 100%**.
- Pressing the top half of the rocker switch briefly switches the light on.
- Pressing the bottom half of the rocker switch briefly switches the light off.
- Pressing the top half of the rocker switch keeps dimming the light brighter as long as the button is being pressed.
- Pressing the bottom half of the rocker switch keeps dimming the light darker as long as the button is being pressed.
  Switching off is not possible.

Operating mode “Switch (0/I**)"**
- Set the selector potentiometer (Fig. 1 (1) on **0/I**.
- Pressing the top half of the rocker switch switches the light on.
- Pressing the bottom half of the rocker switch switches the light off.

4.2 Control via extension unit button

Alternative to direct control via the control element, control is also possible via an extension unit push-button.

Operating mode "Dimmer (0 - 100%**)"**
- Pressing the ´button briefly switches the light on or off.
- Pressing the button keeps dimming the light brighter or darker as long as the button is being pressed.
  The dimmer stops once the maximum or minimum brightness level is reached.
- The dimming direction is reversed with a long press of the button.

Operating mode “Switch (0/I**)"**
- A press of the ´button switches the light on or off.

5 Technical data

General	
Mains voltage	230 V AC ± 10 %, 50 Hz
Nominal power (depending on the ambient temperature, a power loss of 5 % in case of electronic and 20 % for conventional transformers needs to be considered)	450 W / VA
Minimum load	60 W / VA
Maximum cable length of push-button	100 m
Inputs	1
Polling voltage	230 V AC, sensing pulse, L-wire
Outputs	1 electronic output, potential-bound
Nominal current	10 AX
Power consumption	< 1 W
Ambient temperature range	0 ...35 °C
Protection type	IP 20

6 Setup and function

The device is intended for the activation of the following types of loads:

230 V	230 V incandescent lamps
230 V	230 V halogen lamps
	Low-voltage halogen lamps with conventional transformers
	Low-voltage halogen lamps with electronic transformers
R,L,C	

Caution

Possible damage to the device due to an inadmissible combination of different types of transformers!

- Conventional and electronic transformers must not be dimmed together.

All other load combinations are permissible.

6.1 Features of function and equipment

- Soft ON/OFF function
- With operating mode switch (selector potentiometer) for operating modes "Dimmer" and "Switch".
- Electronic short-circuit protection
- Automatic overheating protection
- Operation also possible via conventional push-buttons (2020 US, 2021/6 UK).
- For WaveLINE LED display 6730-...
- Fixing via keyholes or enclosed spring claws

6.2 Possible combinations

	6595 U
6730- ...	X

7 Installation and electrical connection

Warning

Electric voltage!
Risk of death due to electrical voltage of 230 V during short-circuit in the low-voltage line.
– Low-voltage and 230 V lines must not be installed together in a flush-mounted socket!

7.1 Requirements for the electrician

Warning

Electric voltage!
Install the device only if you have the necessary electrical engineering knowledge and experience.
- Incorrect installation endangers your life and that of the user of the electrical system.
- Incorrect installation can cause serious damage to property, e.g. due to fire.

The minimum necessary expert knowledge and requirements for the installation are as follows:
- Apply the "five safety rules" (DIN VDE 0105, EN 50110):
  1. Disconnect from power;
  2. Secure against being re-connected;
  3. Ensure there is no voltage;
  4. Connect to earth and short-circuit;
  5. Cover or barricade adjacent live parts.
- Use suitable personal protective clothing.
- Use only suitable tools and measuring devices.
- Check the supply network type (TN system, IT system, TT system) to secure the following power supply conditions (classic connection to ground, protective earthing, necessary additional measures, etc.).

7.2 Mounting

Warning

Electric voltage!
Risk of death and fire due to electrical voltage of 230 V.
– Work on the 230V supply system may only be performed by authorised electricians!
– Disconnect the mains power supply prior to installation and/or disassembly!

The flush-mounted insert must only be installed in flush-mounted wall boxes according to DIN 49073-1, Part 1, or suitable surface-mounted housings.

Spring claw attachment

1. Push the insert into the box so that the spring claws are guided into the groove on both sides.

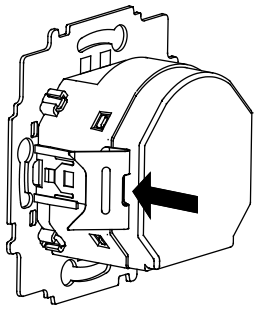

Fig. 2: Spring claw attachment

Releasing the spring claws

The insert can be pulled out of the box once the spring claws have been released.

1. Push a screwdriver through the hole in the mounting plate.
2. Loosen the spring claws from the box by moving the screwdriver (1).
3. Press the spring claws in the box toward the rear (2).

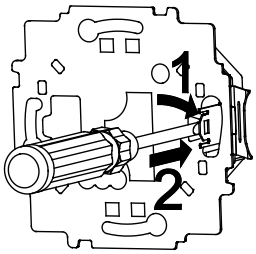

Fig. 3:Releasing the spring claws

7.3 Electrical connection

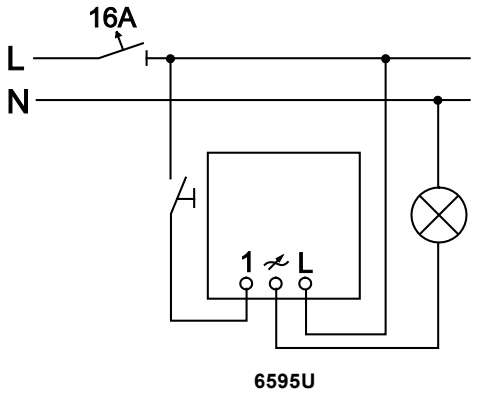

Fig. 4: 6595 U with extension unit push-button (e.g. 2020 US, 2021/6 U)

If illuminated push-buttons are used, only pushbuttons with a separate N-connection are allowed. Contact-parallel illumination is not permitted.

8 Commissioning

Load evaluation
After the connection to the supply voltage, the device evaluates the characteristics of the connected load. The lighting may flicker briefly (for approx. 6 seconds) during the calibration. This happens each time the device is connected to the supply voltage.

- Disconnect the device from power prior to changing the load type.

Overload
In the event of an overload or excess temperature, the device reduces the brightness of the lighting system. If the overload or excess temperature persist, the device will switch itself off. Once the overload or excess temperature is eliminated and after a subsequent cool-down phase, the device is again ready for operation.

Short-circuit
In the event of a short-circuit, the device disconnects the connected loads and then reconnects them. In the case of a permanent short-circuit, the device switches off completely.

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